

## Preliminary DRAFT North Lake Washington Chinook Population - Tier I - Initial Habitat Project List Includes Potential Restoration and Protection Projects by Reach.

### Bear Creek Lower Reaches 1-7

#### Ranking Notes:

- ☐ LWD feasibility determined by ownership (H for public and M/L for private).
- ☐ Many non-specific restoration and protection projects received H Benefit Rankings and M/L feasibility until specific projects are identified.

#### Basinwide Recommendations:

Project #	Description
N601	Study is needed to determine where LWD is most needed. Adding LWD most feasible on PBRs and conservation easement properties.
N602	Landowner outreach and education is needed about the habitat values provided by beavers and beaver dams.
N603	Need to policy to manage both the types and level of human use on lands acquired for habitat purposes to ensure that habitat goals are not threatened.

### Reach 1: Bear Creek from mouth to bottom of restoration reach

#### Restoration

**Technical Hypothesis:** Reduce fine sediment inputs, add LWD, restore riparian conditions, reduce channel confinement.

Project #	Reach #	Reach Restor. Benefit Rank	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N201	1	3 of 7	4	<b>Lower Bear Creek Restoration:</b> Provide an enhanced channel alternative to the ditched and leveed lower 3,000 feet of Bear Creek, including a new refuge confluence with the Sammamish River. Add LWD, restore riparian conditions.		Currently proposed Corps/City of Redmond project only covers 2,000 feet of reach. Restoration is needed for full reach. Lots of community support for project. Project also listed in Sammamish.	<b>H+</b>	<b>H</b>
N202	1	3 of 7	new	<b>Add water quality treatment for stormwater</b> runoff from freeway in this reach.		Explore stormwater retention in this reach that does not conflict with maintaining current buffer on creek.	<b>H</b>	<b>M</b>

#### Protection

**Technical Hypothesis:** Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning habitat.

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
	1	7 of 7		9	No projects identified at this time.				

**Reach 2: Bear Creek from bottom of restoration reach to RR tracks (WDFW trap)****Restoration****Technical Hypothesis:** *Reduce fine sediment inputs, add LWD, restore riparian conditions, reduce channel confinement.*

Project #	Reach #	Reach Restor. Benefit Rank	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N203	2	7 of 7	3	<b>Restore 300 foot section of creek</b> downstream of railroad bridge that was not part of past restoration efforts in this reach. Plant riparian buffer and add LWD.		Not much riparian vegetation currently exists in this section.	<b>M</b>	<b>H</b>
N204	2	7 of 7	new	<b>Remove constriction of channel</b> caused by remnant of railroad bridge.		Causes erosion downstream of bridge. Expensive project for the area effected. Not sure about ownership and railroad/trail rights.	<b>L</b>	<b>M</b>

**Protection****Technical Hypothesis:** *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning habitat.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
	2	1 of 7			No projects identified at this time.				

**Reach 3: Bear Creek from RR tracks (WDFW trap) to Avondale Rd Crossing (potential restoration reach)****Restoration****Technical Hypothesis:** *Reduce fine sediment inputs, add LWD, restore riparian conditions, reduce channel confinement.*

Project #	Reach #	Reach Restor. Benefit Rank	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N205	3	4 of 7	3	<b>Add Large Woody Debris</b> to reach.		Lots of public land in reach. Adding LWD in urban areas may be more difficult.	<b>H</b>	<b>M</b>
N206	3	4 of 7	9	<b>Riparian restoration in reach.</b> Most of the reach is publicly owned, but need to remove invasive plants and replant with native vegetation.			<b>H</b>	<b>H</b>

**Protection**

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Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N207	3	5 of 7		9	The Washington Department of Transportation owns property off NE Redmond Way in this reach. If the Department sells this property, should be protected from development.		Could City of Redmond secure first right of refusal for property? There is not much available land in this part of the watershed and therefore anything available should be considered a valuable opportunity. May be possible to convince WSDOT to use this as a mitigation site. Development on this site should really not be a concern anyway given that it is in the floodplain.	<b>M</b>	<b>M</b>

**Reach 4: Bear Creek from Avondale Rd Crossing (potential restoration reach) to Evan Cr confluence****Restoration**

**Technical Hypothesis:** *Reduce fine sediment inputs, add LWD, restore riparian conditions, reduce channel confinement.*

Project #	Reach #	Reach Restor. Benefit Rank	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N208	4	2 of 7	5	<b>Evans/Bear Creek Restoration:</b> In-channel restoration is needed in Bear Creek and Evans Creek through the former dairy farm at the confluence; RM 1.25 to RM 2.5 on Bear Creek and RM 1.2 to RM 4.6 on Evans Creek (Same as Keller Farm). Reconfigure channel where it has been widened due to past farm practices, enhance riparian area, add LWD, replant.		Feasibility study needed to determine scope of project. Seen by local experts as one of the largest opportunities for habitat restoration in Bear Creek. Creation of a wetland mitigation bank is an option here if can be done in a way that meet both wetland and stream restoration needs. Owner may have some interest in selling property to the right buyer.	<b>H+</b>	<b>H</b>
N209	4	2 of 7	new	<b>Install buffer strips</b> to reduce inputs of fine sediments into the creek from farm land (has been tilled in recent years).		Landowner would have to be willing to cooperate. Perhaps Adopt-A-Stream could approach landowner.	<b>H</b>	<b>M</b>

**Protection**

**Technical Hypothesis:** *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning habitat.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N210	4	6 of 7		new	<b>Protect floodplain and wetland areas</b> adjacent to Keller Farm property in this reach.		Possible opportunity for protection in this reach is acquisition for the Bear and Evans Creeks Greenway Program. However, if trail comes through this area, need to minimize impacts to creek. This area has also been identified as a possible wetland mitigation bank site. Stream and wetland restoration actions in this reach need to be compatible and coordinated.	<b>H</b>	<b>M</b>

**Reach 5: Bear Creek from Evans Cr confluence to Trailer Park (Keller Farm reach)****Restoration**

**Technical Hypothesis:** *Reduce fine sediment inputs, add LWD, restore riparian conditions, reduce channel confinement.*

Project #	Reach #	Reach Restor. Benefit Rank	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N211	5	1 of 7	5	<b>Evans/Bear Creek Restoration:</b> In-channel restoration is needed in Bear Creek and Evans Creek through the former dairy farm at the confluence; RM 1.25 to RM 2.5 on Bear Creek and RM 1.2 to RM 4.6 on Evans Creek (Same as Keller Farm). Enhance riparian area, add LWD, replant, add pools, increase off-channel complexity (oxbows, backwater areas).		Feasibility study needed to determine scope of project. Seen by local experts as one of the largest opportunities for habitat restoration in Bear Creek. Creation of a wetland mitigation bank is an option here if can be done in a way that meet both wetland and stream restoration needs. Owner may have some interest in selling property to the right buyer. Son of owner approached Muckelshoots about selling land. Trust for Public Lands contacted them with no success. Should continue to follow up on this.	<b>H+</b>	<b>H</b>
N212	5	1 of 7	new	<b>Install buffer strips</b> to reduce inputs of fine sediments into the creek from farm land (has been used tilled in recent years).		Landowner would have to be willing to cooperate. Perhaps Adopt-A-Stream could approach landowner.	<b>H</b>	<b>M</b>

**Protection**

**Technical Hypothesis:** *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning habitat.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N213	5	4 of 7		new	<b>Protect floodplain and wetland areas</b> adjacent to Keller Farm property in this reach.		Possible opportunity for protection in this reach is acquisition for the Bear and Evans Creeks Greenway Program. However, if trail comes through this area, need to minimize impacts to creek. This area has also been identified as a possible wetland mitigation bank site. Stream and wetland restoration actions in this reach need to be compatible and coordinated.	<b>H</b>	<b>M</b>

**Reach 6: Bear Creek from Trailer Park (top Keller Farm reach) to Cottage Lake Creek****Restoration**

**Technical Hypothesis:** *Reduce fine sediment inputs, add LWD, restore riparian conditions, reduce channel confinement.*

Project #	Reach #	Reach Restor. Benefit Rank	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N214	6	5 of 7	new	<b>Continue to work with private property owners</b> in reach to restore riparian areas, increase in-channel complexity and add LWD. Use King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects report to identify specific potential projects. In particular, restoration needed throughout Friendly Village development in downstream end of reach and equestrian center near middle of the reach.		In King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects habitat problems were identified, prioritized and solutions identified. Report covers LWD, in-channel restoration as well as riparian restoration. Information is still relevant and identified projects that have not yet been done should be pursued. There are a lot of private landowners in this reach.	<b>M</b>	<b>L</b>
N215	6	5 of 7	new	<b>Reduce or remove bank armoring</b> and restore riparian vegetation at NE 116th and Avondale Place.		Proposed for King County acquisition. Adjacent to Redmond proposed acquisition. Feasibility H if acquired, but L otherwise.	<b>M/L</b>	<b>H</b>

**Protection**

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Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N216	6	3 of 7		7	<b>Forest Cover Protection:</b> Acquire forest property, development rights/conservation easements, and provide enhanced incentives to retain and plant forest area environments. Particularly forested area south of Puget Power Trail and at corner of 116th and Avondale Road.		One parcel being considered by King County, 2 acres. Funding in process for this site. Feasibility H for King County parcel, M for rest of the reach.	H	H
N217	6	3 of 7		8e	<b>Protect riparian forested buffers</b> along Bear Creek, Cottage Lake Creek, and other salmonid tributaries.		Not many protection opportunities remain in this reach.	H	M/L
N218	6	3 of 7		new	<b>Protect undeveloped properties</b> in reach.			H	M/L

**Reach 7: Bear Creek from Cottage Lake Creek to 133rd St (King County gage site)****Restoration**

**Technical Hypothesis:** *Reduce fine sediment inputs, add LWD, restore riparian conditions, reduce channel confinement.*

Project #	Reach #	Reach Restor. Benefit Rank	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N219	7	6 of 7	3	<b>Add Large Woody Debris to Bear Creek:</b> Particularly in already protected area with intact riparian forest. Good opportunity in this reach in large properties that are in public ownership.			H	H
N220	7	6 of 7	new	<b>Explore opportunities to reforest cleared areas</b> in this reach in order to increase forest cover.			M	H
N221	7	6 of 7	new	<b>Continue to work with private property owners</b> in reach to restore riparian areas, increase in-channel complexity and add LWD. Use King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects report to identify specific potential projects.		In King County's 1994 Bear Creek and Evans Creek Capital Improvement Program Projects habitat problems were identified, prioritized and solutions identified. Report covers LWD, in-channel restoration as well as riparian restoration. Information is still relevant and identified projects that have not yet been done should be pursued.	H	M/L

**Protection**

**Technical Hypothesis:** *Protect pool habitat and the habitat features that support the creation of pools (lwd, riparian function, and channel connectivity), and spawning habitat.*

Project #	Reach #	Reach Prot. Benefit Rank	Existing Prot. Priority (Y/N)	NTAA #	NTAA Name & Description	Approx. Cost	Notes, Key Uncertainties	Benefits to Chinook H, M, L	Feasibil. H, M, L
N222	7	2 of 7	Y	8c	<b>Continue Bear Creek Waterways</b> program to protect best remaining habitat. This reach includes "Reach D". In particular, there may be opportunities to protect forested area near Classic Nursery.			<b>H</b>	<b>M/L</b>
N223	7	2 of 7		8e	<b>Protect riparian forested buffers</b> along Bear Creek.			<b>H</b>	<b>M/L</b>
N224	7	2 of 7		7	<b>Forest Cover Protection:</b> Acquire forest property, development rights/conservation easements, and provide enhanced incentives to retain and plant forest area environments. Good opportunities in reach to protect contiguous forest cover.		This reach begins the rural zoning the Bear Creek basin.	<b>H</b>	<b>M/L</b>
N225	7	2 of 7		new	<b>Protect instream flows in reach:</b> Begin by identifying legal and illegal water withdrawals.		Several strategies could be used to deal with illegal water withdrawals. Education, incentives and enforcement could all be used to achieve goals.	<b>H</b>	<b>L</b>